

#4158  
5/23/02  
PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Kathryn F. Sykes  
Stephen A. Johnston

Serial No.: UNASSIGNED

Filed: Concurrently Herewith

For: LINEAR AND CIRCULAR EXPRESSION  
ELEMENTS

Group Art Unit: Unknown

Examiner: Unknown

Atty. Dkt. No.:UTSD:557USD1

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10/077232  
02/15/02

CERTIFICATE OF EXPRESS MAIL

NUMBER \_\_\_\_\_ EL780049432US \_\_\_\_\_

DATE OF DEPOSIT \_\_\_\_\_ February 15, 2002 \_\_\_\_\_

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
Washington, D.C. 20231

Sir:

In compliance with the duty of disclosure under 37 C.F.R. § 1.56, it is respectfully requested that this Information Disclosure Statement be entered and the documents listed on attached Form PTO-1449 be considered by the Examiner and made of record.

In accordance with 37 C.F.R §§ 1.97(g), (h), this Information Disclosure Statement is not to be construed as a representation that a search has been made, and is not to be construed to be an admission that the information cited is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

The present Information Disclosure Statement is being filed prior to the receipt of a first Official Action reflecting an examination on the merits, and hence is believed to be timely filed in accordance with 37 C.F.R § 1.97(b). No fees are believed to be due in connection with the filing of this Information Disclosure Statement, however, should any fees under 37 C.F.R.

§§ 1.16 to 1.21 be deemed necessary for any reason relating to these materials, the Commissioner is hereby authorized to deduct said fees from Fulbright & Jaworski Deposit Account No.: 50-1212/10200687/MBW.

This application is a continuation application of Serial No. 09/535,366, filed March 24, 2000, and is relied upon for an earlier filing date under 35 U.S.C. § 120. In accordance with Rule 37 C.F.R. § 1.98(d) copies of the listed documents are not enclosed as they have been previously cited by or submitted to the Patent and Trademark Office in prior application Serial No. 09/535,366.

Applicants respectfully request that the listed documents be made of record in the present case.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'MBW', is written over the typed name.

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Reg. No. 37,259  
Attorney for Applicants

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Date: February 15, 2002

Form PTO-1449 (modified)	Atty. Docket No. UTSD:557USD1	Serial N . Unassigned
List of Patents and Publications for Applicant's  INFORMATION DISCLOSURE STATEMENT  (Use several sheets if necessary)	Applicant Kathryn F. Sykes and Stephen A. Johnston	
	Filing Date: filed concurrently herewith	Group: unknown
U.S. Patent Documents <i>See Page 1</i>	Foreign Patent Documents <i>See Page 1</i>	Other Art <i>See Page 1</i>

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### U.S. Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Name	Class	Sub Class	Filing Date of App.
	A1	5,703,057	12/30/97	Johnston <i>et al.</i>	514	44	4/7/95
	A2	6,001,590	12/14/99	Komeda <i>et al.</i>	435	69.1	09/12/96
	A3	6,143,530	11/7/00	Crouzet <i>et al.</i>	435	91.42	2/21/96
	A4	6,280,977	8/28/01	Liang <i>et al.</i>	435	91.2	3/23/00

### Foreign Patent Documents

Exam. Init.	Ref. Des.	Document Number	Date	Country	Class	Sub Class	Translation Yes/No
	B1	DD 206791	02/08/84	German Democratic Rep.			No
	B2	EP 220482	05/06/87	Europe			
	B3	JP 6253863	09/13/94	Japan			No
	B4	JP 9135694	05/27/97	Japan			No
	B5	WO 0056914	9/28/2000	PCT			
	B6	WO 92/08798	05/29/82	PCT			
	B7	WO 93/24639	12/09/93	PCT			
	B8	WO 96/26270	8/29/96	PCT			
	B9	WO 97/10345	03/20/97	PCT			Abstract
	B10	WO 98/21322	5/1998	PCT			
	B11	WO 98/38296	09/03/98	PCT			
	B12	WO 99/02671	1/21/99	PCT			
	B13	WO 99/45130	09/10/99	PCT			
	B14	WO 99/66053	12/23/99	PCT			

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INFORMATION DISCLOSURE STATEMENT — PTO-1449 (MODIFIED)

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### Other Art (Including Author, Title, Date Pertinent Pages, Etc.)

Exam. Init.	Ref. Des.	Citation
	C1	Aslanidis and Jong, "Ligation-independent cloning of PCR products (LIC-PCR)," <i>Nucl. Acids Res.</i> , 18:6069-6074, 1990.
	C2	Aslanidis <i>et al.</i> , "Minimal length requirement of the single-stranded tails for ligation-independent cloning (LIC) of pcr products," <i>PCR Methods and Applications</i> , 4:172-177, 1994.
	C3	Barry <i>et al.</i> , "Protection against mycoplasma infection using expression-library immunization," <i>Nature</i> , 377:632-635, 1995.
	C4	Bolen <i>et al.</i> , "Isolation and sequence analysis of a gene from the linear DNA plasmid pPacl-2 of pichia acaciae that shows similarity to a killer toxin gene of Kluyveromyces lactis," <i>Yeast</i> , 10:403-414, 1994.
	C5	Buttrick <i>et al.</i> , "Behavior of genes directly injected into the rat heart in vivo," <i>Circulation Res.</i> , 70:193-198, 1992.
	C6	Carlyon <i>et al.</i> , "Analysis of the organization of multicopy linear- and circular-plasmid-carried open reading frames in borrelia burgdorferi sensu lato isolates," <i>Infect. Immun.</i> , 66:1149-1158, 1998.
	C7	Cassata <i>et al.</i> , "Rapid expression screening of <i>caenorhabditis elegans</i> homeobox open reading frames using a two-step polymerase chain reaction promoter- <i>gfp</i> reporter construction technique," <i>Gene</i> , 212:127-135, 1998.
	C8	Court and Bertrand, "Expression of the open reading frames of a senescence-inducing, linear mitochondrial plasmid of neurospora crassa," <i>Plasmid</i> , 30:51-66, 1993.
	C9	Felgner and Liang, "Debugging expression screening," <i>Nature Biotech.</i> , 17: 329-330, 1999.
	C10	Griffith and Yang, "Recombination between heterologous linear and circular mitochondrial plasmids in the fungus neurospora," <i>Mol. Gen. Genet.</i> , 249:25-36, 1995.
	C11	Grzeszik <i>et al.</i> , "Genes encoding the NAD-reducing hydrogenase of rhodococcus opacus mr11," <i>Microbiology.</i> , 143:1271-1286, 1997.
	C12	Gusew <i>et al.</i> , "Linear DNA must have free ends to transform rat cells efficiently," <i>Mol. Gen. Genet.</i> , 206:121-125, 1987.
	C13	Haun and Moss, "Ligation-independent cloning of glutathione S-transferase fusion genes for expression in Escherichia coli," <i>Gene</i> , 112:37-43, 1992.

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	C14	Haun <i>et al.</i> , "Rapid, reliable ligation-independent cloning of pcr products using modified plasmid vectors," <i>Biotechniques</i> , 12:515-518, 1992.
	C15	Johnston and Barry, "Genetic to genomic vaccination," <i>Vaccine</i> , 15:808-809, 1997.
	C16	Kain <i>et al.</i> , "Universal promoter for gene expression without cloning: Expression-PCR," <i>Biotechniques</i> , 10:366-368, 370, 371, 374, 1991.
	C17	Kaluz and Flint, "Ligation-independent cloning of pcr products with primers containing nonbase residues," <i>Nucl. Acids Res.</i> , 22:4845, 1994.
	C18	Kamper <i>et al.</i> , "Heterologous gene expression on the linear DNA killer plasmid from <i>Kluyveromyces lactis</i> ," <i>Curr. Genet.</i> , 19:109-118, 1991.
	C19	La Flamme <i>et al.</i> , "Trypanosoma cruzi: expression of interleukin-2 utilizing both supercoiled plasmids and linear DNA's," <i>Exp. Parasitol.</i> , 83:159-163, 1996.
	C20	Li <i>et al.</i> , "Delivery of a PCR amplified DNA fragment into cells: a model for using synthetic genes for gene therapy," <i>Gene Therapy</i> , 4:449-454, 1997.
	C21	Lobocka <i>et al.</i> , "Characterization of the primary immunity region of the <i>Escherichia coli</i> linear plasmid prophage N15," <i>J. Bacteriol.</i> , 178:2902-2910, 1996.
	C22	Logel <i>et al.</i> , "Synthesis of crna probes from pcr-generated dna," <i>Biotechniques</i> , 13:604-610, 1992.
	C23	Mead <i>et al.</i> , "A universal method for the direct cloning of pcr amplified nucleic acid," <i>Biotechnology</i> , 9:657-663, 1991.
	C24	Meinhardt <i>et al.</i> , "A novel approach to express a heterologous gene <i>kluyveromyces lactis</i> linear killer plasmids: expression of the bacterial APH gene from a cytoplasmic promoter fragment without in-phase fusion to the plasmid open reading frame," <i>Plasmid</i> , 32:318-327, 1994.
	C25	Monoco <i>et al.</i> , "Expression of recombinant human granulocyte colony-stimulating factor in CHO dhfr cells: new insights into the in vitro amplification expression system," <i>Gene</i> , 180:145-150, 1996.
	C26	Nisson <i>et al.</i> , "Rapid and efficient cloning of Alu-PCR products using uracil DNA glycosylase," <i>PCR Methods and Applications</i> , 1:120-123, 1991.

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Exam. Init.	Ref. Des.	Citation
	C27	Rashtchian et al., "Uracil; DNA glycosylase-mediated cloning of polymerase chain reaction-amplified DNA: Application to genomic and cDNA cloning," <i>Anal. Biochem.</i> , 206:91-97, 1992.
	C28	Rashtchian, "Novel methods for cloning and engineering genes using the polymerase chain reaction," <i>Curr. Opin. Biotech.</i> , 6:30-36, 1995.
	C29	Sampath et al., "Versatile vectors for direct cloning and ligation-independent cloning of pcr-amplified fragments for surface display on filamentous bacteriophages," <i>Gene</i> , 190:5-10, 1997.
	C30	Schickel et al., "Kluyveromyces lactis killer system: analysis of cytoplasmic promoters of the linear plasmids," <i>Nucleic. Acids Res.</i> , 24:1879-1886, 1996.
	C31	Schrunder and Meinhardt, "An extranuclear expression system for analysis of cytoplasmic promoters of yeast linear killer plasmids," <i>Plasmid</i> , 33:139-151, 1995.
	C32	Schrunder et al., "Extranuclear expression of the bacterial xylose isomerase (xylA) and the udp-glucose dehydrogenase (hasB) genes in yeast with kluyveromyces lactis linear killer plasmids as vectors," <i>Curr. Microbiol.</i> , 33:323-330, 1996.
	C33	Sekine et al., "Identification and characterization of the linear IS3 molecules generated by staggered breaks," <i>J. Biol. Chem.</i> , 271:197-202, 1996.
	C34	Switzer et al., "Rapid screening of open reading frames by protein synthesis with an in vitro transcription and translation assay," <i>Biotechniques</i> , 18:244-248, 1995.
	C35	Sykes and Johnston, "Linear expression elements: a rapid, in vivo, method to screen for gene functions," <i>Nat. Biotech.</i> , 17:355-359, 1999.
	C36	Tang et al., "Genetic immunization is a simple method for eliciting an immune response," <i>Nature</i> , 356:152-154, 1992.
	C37	Tanguy-Rougeau et al., "Expression of a foreign Km <sup>R</sup> gene in linear killer DNA plasmids in yeast," <i>Gene</i> , 91:43-50, 1990.
	C38	Ton-Hoang et al., "Efficient transportation of IS911 circles in vitro," <i>Embo. J.</i> , 17:1169-1181, 1998.
	C39	Turner and Moyer, "A PCR-based method for manipulation of the vaccinia virus genome that eliminates the need for cloning," <i>BioTechniques</i> , 13:764-771, 1992.
	C40	Wess, "German start-up mologen to develop DNA vaccines," Article

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Exam. Init.	Ref. Des.	Citation
	C41	Xie and Tsong, "Study of mechanisms of electric field-induced DNA transfection. V. effects of DNA topology on surface binding, cell uptake, expression, and integration into host chromosomes of DNA in the mammalian cell," <i>Biosphys. Jour.</i> , 65:1684-1689, 1993.

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